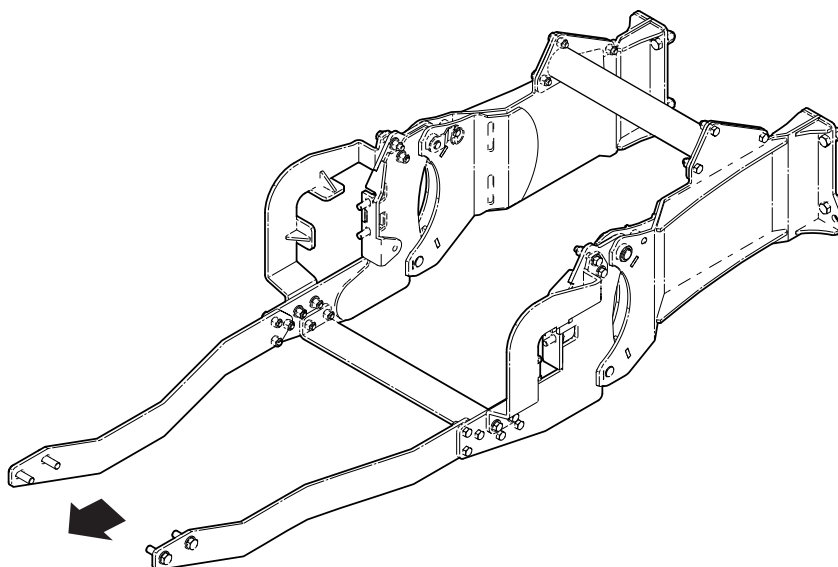


INSTALLATION INSTRUCTIONS

3632A700 Backhoe Subframe Kit



Introduction

This subframe is designed to work with Wallenstein Backhoes.

The Wallenstein backhoe is designed to work with a wide variety of tractors. With the Wallenstein Subframe Kit you can easily and quickly attach and detach your Wallenstein backhoe to your particular tractor.

Some of the illustrations shown in this manual are general, but important features are detailed in order to install your kit successfully.

Please review the backhoe operators manual. Safe, efficient and trouble free operation of your Wallenstein Backhoe requires that you and anyone else who will be operating or maintaining the machine, read and understand the Safety, Operation, Maintenance and Trouble Shooting information contained within the Operator's Manual.



NOTE: All subframe parts and hardware to mount them are included in the kit. Make sure the parts are not damaged from shipping.

IMPORTANT! This installation kit includes both metric and Imperial fasteners. Bolt type is identified by looking at the bolt head markings.

Metric



Imperial



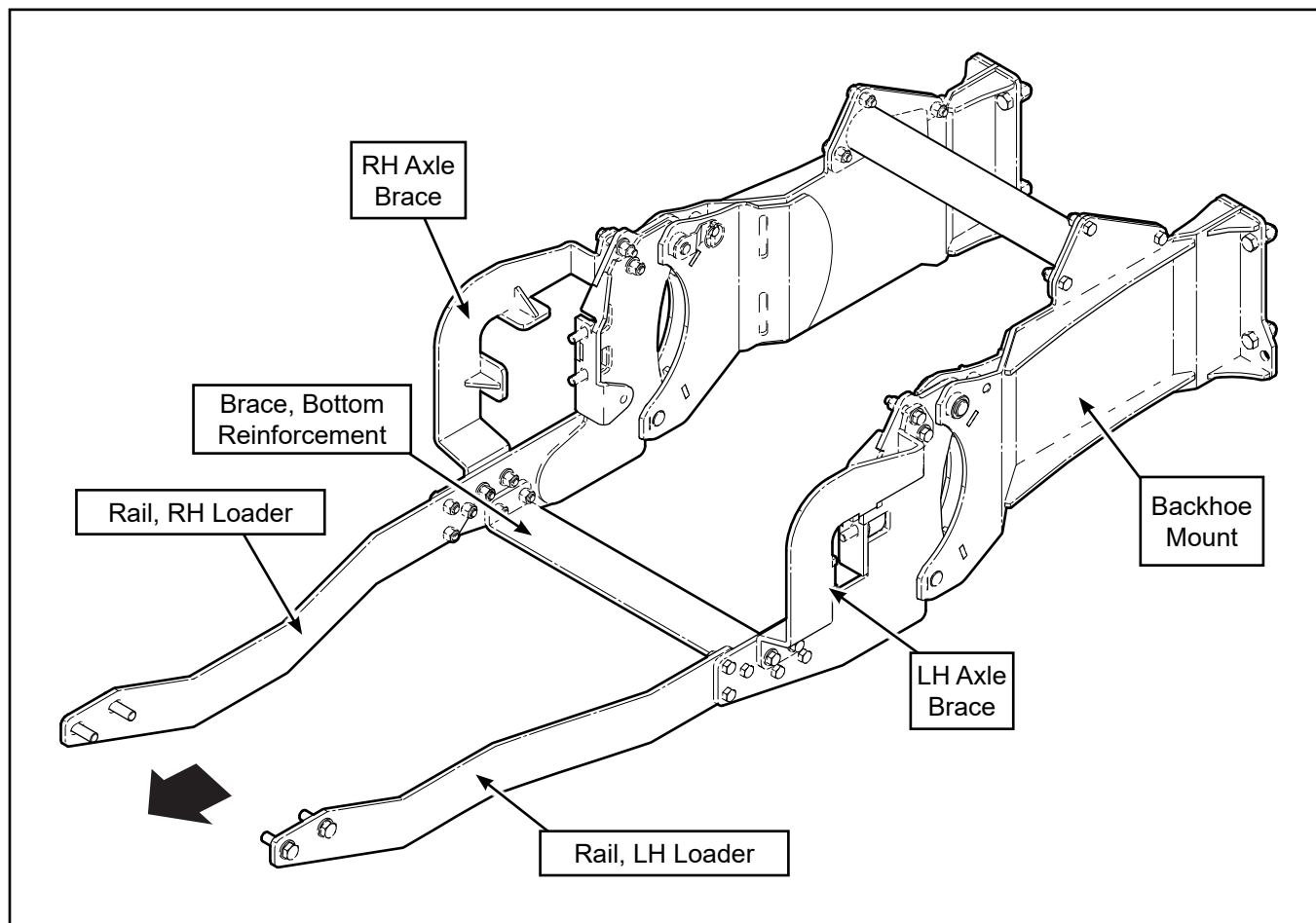
SAE Gr. 2

SAE Gr. 5

SAE Gr. 8

Operator Orientation

The directions left, right, front and rear as mentioned in this instruction are determined when sitting in the tractor driver's seat, facing in the direction of forward travel.



Subframe Kit Components

Safety Rules

WARNING!

ATTENTION! BE ALERT! YOUR SAFETY IS INVOLVED!

Working around equipment can be dangerous. Always be aware of bystanders, the area around the machine, and what to do in case of emergency.

Learn how to install and operate the new equipment safely. Read and understand these instructions before attempting installation.

W007

WARNING!

Before operating the backhoe:

- Check that all pins and adapter plates are secure and correctly attached to the sub-frame.
- Ensure that all fasteners are correctly torqued according to the bolt torque table.
- Inspect and test all hydraulic connections.
- Thoroughly read the backhoe operator's manual for safe operation.

W008

WARNING!

Make sure the subframe, backhoe and tractor are positioned on dry level ground before beginning. The area around them should be clear and free of debris. Make sure the tractor is shut off, the brake is applied, and key is removed.

WARNING!

Review and understand the operating instructions for the backhoe. Part of the installation process includes operating the hydraulics to position the attachment points on the tractor.

WARNING!

Proceed with caution. During the course of assembly, the ROPS / cab support bolts are removed. Support for the cab may be required when removing cab mounting bolts. Remove and replace bolts one side at a time.

WARNING!

Make sure the tractor is parked on a level surface with the front wheels chocked to prevent movement. Use properly rated jack stands to support the tractor.

W009

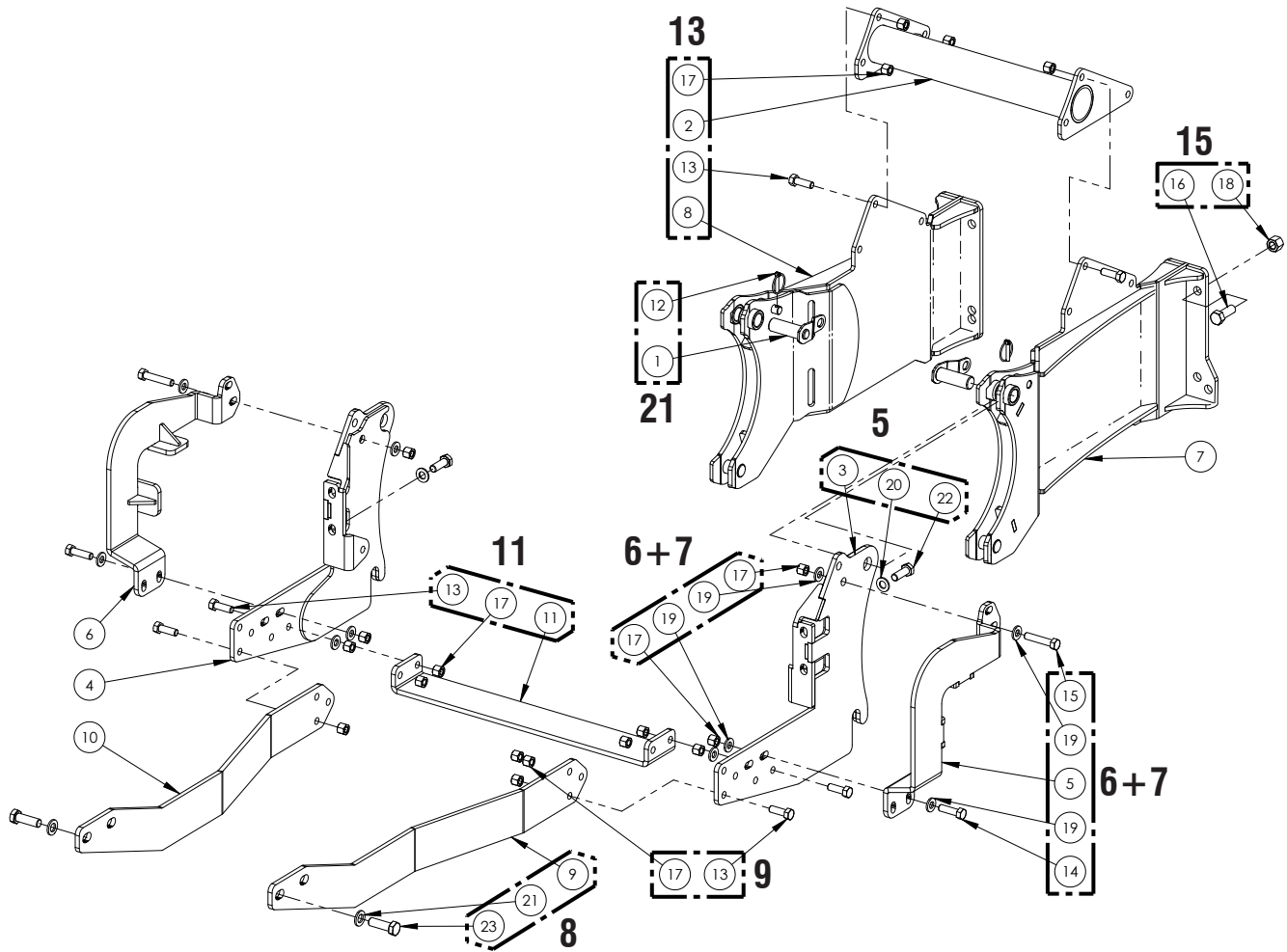
WARNING!

Make sure the loader is resting on the ground in a relaxed state. The loader frame could otherwise move unexpectedly when the mounts are disconnected.

W018

1. Do not install backhoe and required counterweights on tractor if the total tractor and equipment weight then exceeds the ROPS weight certification of the tractor.
2. Be sure machine is properly mounted, adjusted and in good operating condition.
3. Ensure that all safety shielding and safety signs are properly installed and in good condition.

Subframe Kit Parts




All parts and hardware shown in the Subframe Kit Parts illustration are included in the kit. Make sure the parts are not damaged from shipping.

Item	Part Number	Description	Quantity
1	3600W201	Subframe Top Pin	2
2	3600W603	Crossmember	1
3	3632W701	LH Tractor plate	1
4	3632W701H	RH Tractor Plate	1
5	3632W702	LH Axle Brace	1
6	3632W702H	RH Axle Brace	1
7	3632W730	RH Backhoe Link	1
8	3632W730H	LH Backhoe Link	1
9	3632L707	LH Load Rail	1
10	3632L707H	RH Load Rail	1
11	3632L708	Brace, Bottom Reinforcement	1
12	Z12120	Lynch Pin, 1/4"	2

Item	Part Number	Description	Quantity
13	Z71515	Hex Bolt, 1/2"NC x 1-1/2"	16
14	Z71517	Hex Bolt, 1/2"NC x 1-3/4"	4
15	Z71525	Hex Bolt, 1/2"NC x 2-1/2"	4
16	Z71617	Hex Bolt, 5/8"NC x 1-3/4"	8
17	Z72251	Hex Lock Nut, 1/2"NC	24
18	Z72261	Hex Lock Nut, 5/8"NC	8
19	Z73151	SAE Washer, 1/2"	16
20	Z77381	DIN 125 Washer, M14	4
21	Z77391	DIN 125 Washer, M16	4
22	Z77682	Hex Bolt, M14 x 1.5 x 40 mm	4
23	Z77695	Hex Bolt, M16 x 1.5 x 50 mm	4

Preparation:

 **NOTE:** *Installation is made easier if rear tractor wheels are removed beforehand.*

Position the tractor with the backhoe lined up behind it.

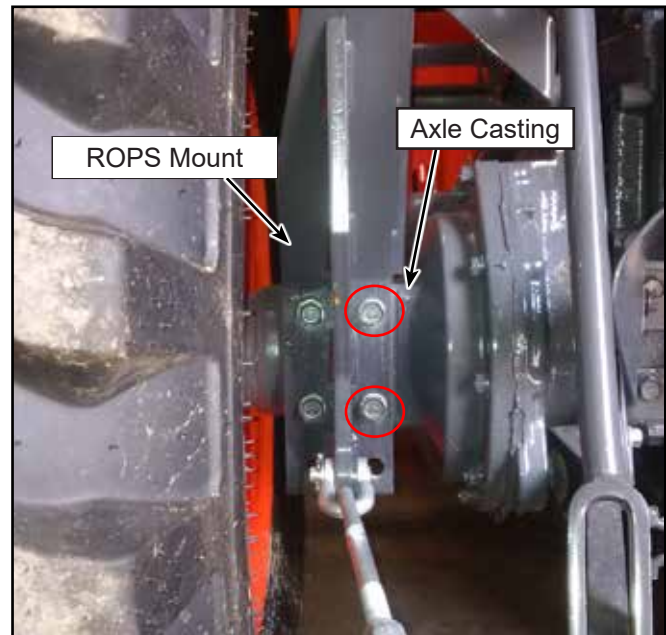
- Backhoe should be assembled but left on the shipping skid.
- The tractor must have a front bucket loader installed. The front loader is required to offset the weight of the backhoe, as well as provide the stability required to operate the backhoe safely.
- The loader should be in the lowered position, resting on the ground.

Tools required:

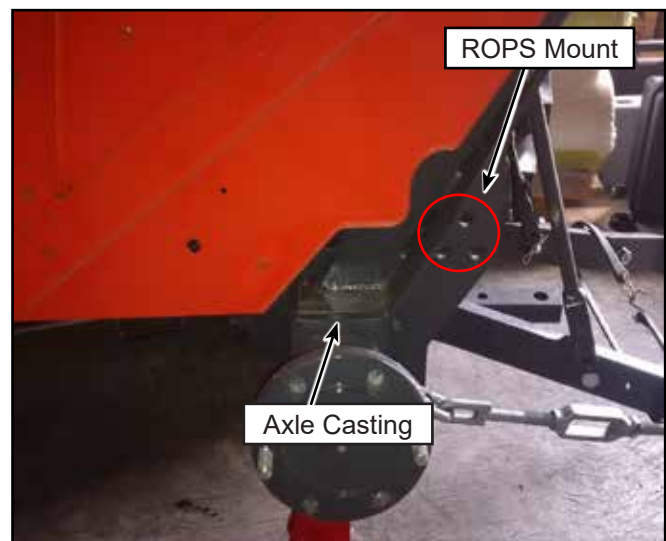
- Basic shop tools
- 1/2", 5/8" wrenches and sockets
- M14, M16 wrenches and sockets
- Overhead lifting device
- Jack stands
- Torque wrench

Procedure

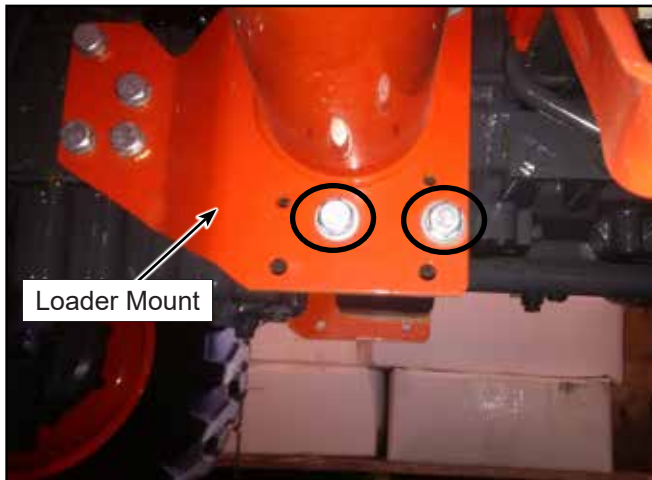
1. Remove the anti-sway bars from the ROPS mounts and swing the lift arms in as far as they will go. Secure them in that position to keep them out of the way.
2. Remove the two inner rear bolts holding the ROPS mount to the axle, as circled in the image below for the left hand side. Place the bolts and washers in a safe place.



3. Make sure the ROPS mount is unobstructed above the axle casting and the three holes in the back brace.

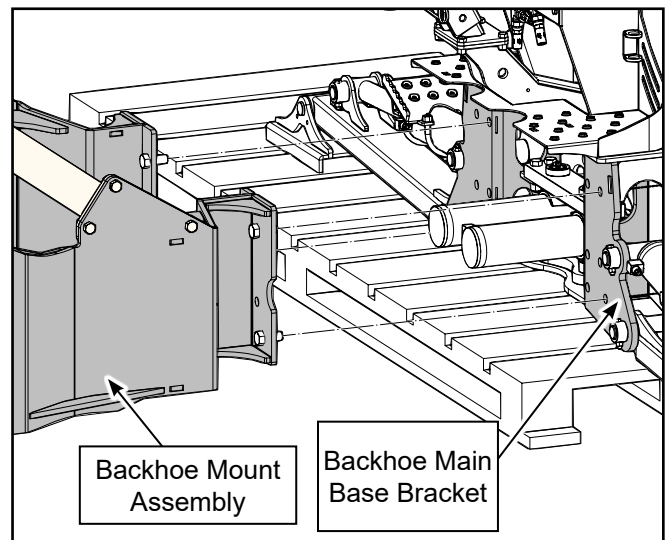


4. Remove the two bottom bolts of the loader mount per side, as circled in the image to the right. Place the bolts and washers in a safe place.

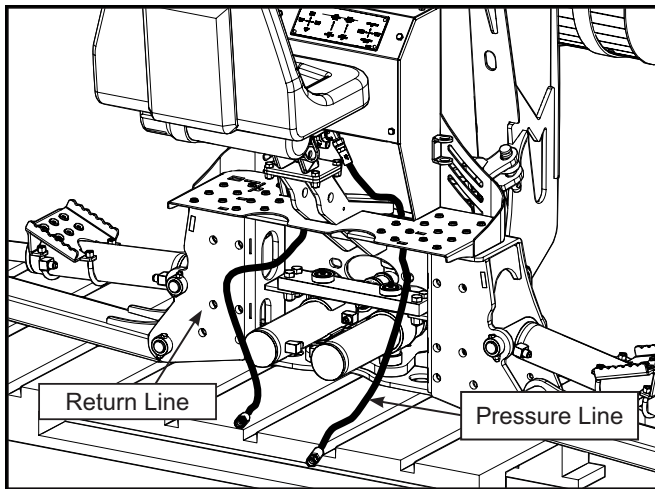


5. Place tractor weldment underneath axle against ROPS mount, and hand tighten only with new bolts. See parts breakdown.
6. Place axle brace weldment over axle and against ROPS mount and tie together with tractor weldment. Hand tighten only with hardware as shown. Make sure weldment sits tight against top and front of axle.
7. Tie tractor weldment and axle brace weldment together using hardware as shown. Hand tighten only.
8. Place loader rail against loader mount and hand tighten with new hardware.
9. Tie tractor weldment and loader rail together using hardware as shown. Hand tighten only.

10. Repeat steps 2–9 for the right-hand side. Hand tighten only.
11. Place bottom reinforcement brace between the tractor weldments and underneath the hitch receiver with hardware as shown. Hand tighten only.
12. Torque down all nuts and bolts on the subframe (see torque chart).
13. Assemble the backhoe mount weldments with hardware as shown.
14. Torque down all nuts and bolts in the backhoe mount (see torque chart at end of instruction).
15. Take the backhoe subframe mount and attach it to the Backhoe on main base bracket. Use the 5/8"NC bolts and nuts provided, four for each left and right side, tighten down the bolts. The subframe will remain on your backhoe and should not be removed. Check that the lift arms move freely with the sub frame installed.



16. Align and back the tractor up to the bracket. Get close enough to attach the hydraulics to the backhoe.



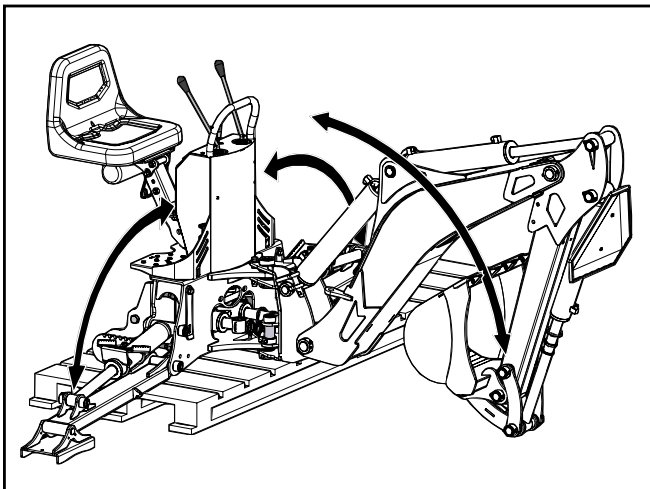
17. Attach the hydraulic lines from the backhoe to the tractor. See illustration.

NOTE: *The backhoe is equipped with a directional control valve and does not allow reverse flow if pressure and return lines are connected incorrectly.*

! WARNING!

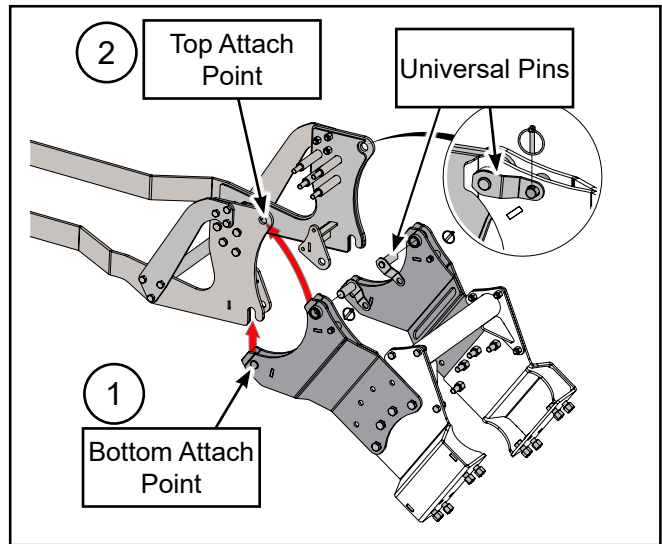
When operating the boom and stabilizers, ensure the area is clear of bystanders and operator is safely positioned.

18. Carefully use the dipper arm / stabilizer legs to tilt the bracket / backhoe on an angle, so that the bottom attach points line up with the hooks on the bottom of the subframe on the tractor.



19. Carefully use the backhoe hydraulics to raise the bracket assembly into the bottom of the hooks for positive attachment.

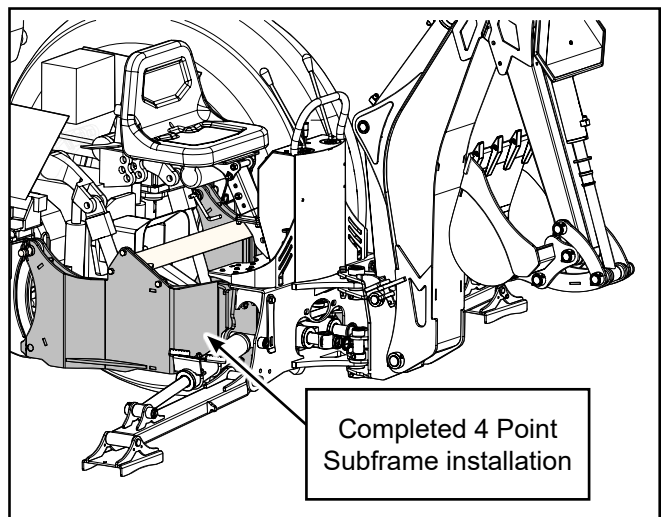
20. Carefully use the backhoe hydraulics to rotate the bracket assembly into the top attach points on the subframe. Rotate the bracket until it reaches the stop. The pin holes will then be aligned.



Generic illustration showing hitching principal.

21. Insert the two welded universal pins into the pin holes and secure with lynch pins.
22. Check that all attach points are secure, and make sure all bolts / nuts are tightened and torqued.
23. Test the hydraulics: lift the stabilizer legs and remove the skid. Lower the stabilizers and test all boom functions.
24. Check that all moving parts have clearance and do not interfere with the subframe.

The subframe installation is now complete.



Bolt Torque

Checking Bolt Torque

The tables shown give correct torque values for various bolts and capscrews. Tighten all bolts to the torque values specified in the table, unless indicated otherwise. Check tightness of bolts periodically.

IMPORTANT! If replacing hardware, use fasteners of the same grade.

IMPORTANT! Torque figures indicated in the table are for non-greased or non-oiled threads. Do not grease or oil threads unless indicated otherwise. When using a thread locker, increase torque values by 5%.



NOTE: Bolt grades are identified by their head markings.

Imperial Bolt Torque Specifications						
Bolt Diameter	Torque Value					
	SAE Gr. 2		SAE Gr. 5		SAE Gr. 8	
	lbf•ft	N•m	lbf•ft	N•m	lbf•ft	N•m
1/4"	6	8	9	12	12	17
5/16"	10	13	19	25	27	36
3/8"	20	27	33	45	45	63
7/16"	30	41	53	72	75	100
1/2"	45	61	80	110	115	155
9/16"	60	95	115	155	165	220
5/8"	95	128	160	215	220	305
3/4"	165	225	290	390	400	540
7/8"	170	230	420	570	650	880
1"	225	345	630	850	970	1320



SAE Gr. 2



SAE Gr. 5



SAE Gr. 8

Metric Bolt Torque Specifications				
Bolt Diameter	Torque Value			
	Gr. 8.8		Gr. 10.9	
	lbf•ft	N•m	lbf•ft	N•m
M3	0.4	0.5	1.3	1.8
M4	2.2	3	3.3	4.5
M6	7	10	11	15
M8	18	25	26	35
M10	37	50	52	70
M12	66	90	92	125
M14	83	112	116	158
M16	166	225	229	310
M20	321	435	450	610
M30	1,103	1 495	1,550	2 100



8.8



10.9